



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,810	08/28/2003	Avinash Jain	030159	9973
23696	7590	05/18/2007		
QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER BURROWES, LAWRENCE J	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 05/18/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kaskanla@qualcomm.com
nanm@qualcomm.com

Office Action Summary

Application No.

10/651,810

Applicant(s)

JAIN ET AL.

Examiner

LAWRENCE J. BURROWES

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/2/2004 & 10/4/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 16, 18 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Koo et al (6,804,219) hereafter Koo.

For claims 16, 18 and 22, Koo disclose a station and method of scheduling data as claimed comprising: receiving a rate request (see Figure 6 Box 610, the channel request message include resource request information); transmitting a rate assignment responsive to the rate request (see Figure 6 Box 620, the channel assignment message includes allocation information), the rate

assignment indicating a scheduled duration and a scheduled rate applicable for the scheduled duration (see Figure 3 Box 350 and 360, the assignment transmits at a high rate and for a certain period as determined by the SCH timer); and receiving data for the scheduled duration at the scheduled rate (see Figure 6, Box 630, data transmitted for a certain time period).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-3, 17 and 19-21 are rejected under 35 U.S.C. 103(a) as being obvious over Koo in view of Tuch (5,390,165).

For claims 1, 17 and 19-21, Koo disclose transmitting a rate request (see Figure 6 Box 610, the channel request message include resource request information; receiving a rate request (see Figure 6 Box 610, base station receives the

message); transmitting a rate assignment responsive to the rate request, the rate assignment indicating a scheduled duration and a scheduled rate applicable for the scheduled duration (see Figure 3 Box 350 and 360, the assignment transmits at a high rate and for a certain period as determined by the SCH timer); receiving the rate assignment (see Figure 3 Box 330, base station receives the message); and transmitting data, the transmitting responsive to the rate assignment, wherein the data transmitted for the scheduled duration at the scheduled rate (see Figure 3, Box 350, data transmitted for a certain time period).

Koo disclose all the limitations of the claimed invention except transmitting the message if data arriving in a buffer, data exceeding a buffers depth and sufficient power levels to transmit.

Tuch from the same or similar fields of endeavor teaches transmitting the message if data arriving in a buffer (see column 4 line 36, packet buffer), data exceeding the buffers depth (see column 4 lines 37-56, packet length buffer analyzes how much can be stored in the buffer) and power levels to transmit (see column 4 lines 37-56, power database holds what levels are needed to transmit).

Therefore, it would have been obvious to one of ordinary skill in that art at the time of the invention to modify/implement the packet buffer monitoring of Tuch into the data transmitting system of Koo by connecting the buffer monitoring to mobile. The motivation to do so would be to enable transmission power to be maintained at on average low level, without the need to reduce the data rate.

Regarding claim 2, wherein the scheduled duration is an integer multiple of a minimum scheduled duration (see Koo reference column 3 lines 55-63, duration time is determined which is a number).

Regarding claim 3, where the scheduled duration is less than or equal to a scheduling period, the scheduling period is an interval of time after which a scheduler makes a scheduling decision (see Koo reference column 2 lines 39-51, the scheduling time and period at which it transmits is predetermined so it can be equal each time).

7. Claims 4-15 are rejected under 35 U.S.C. 103(a) as being obvious over Koo in view of Tuch, and further in view of Tiedemann, Jr et al (5,914,950) hereafter Tiedemann.

For claims 4-6, Koo in view of Tuch discloses all the limitation of the claimed invention except the scheduling period and duration are variable.

Tiedemann from the same or similar fields of endeavor teaches the scheduling period and duration are variable (see column 22 lines 24-34, the periods and duration of transmitting varies depending on which mobile has control).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify/implement time varying scheduling of Tiedemann into the combined system of Koo in view of Tuch by programming the scheduler to vary the times at which it transmits. The motivation to do so would

be so that enhanced features of the mobile would not tie up bandwidth needed by other mobiles.

Regarding claim 7, wherein the scheduled duration is based on priority of a station (see Tiedemann column 11 lines 21-23, priority list of users).

Regarding claim 8, wherein the scheduled duration is based on a maximum supportable rate (see Tiedemann column 11 lines 38-41, scheduler calculates maximum supportable rate).

Regarding claim 9, wherein the scheduled duration is the longest possible duration for the maximum supportable rate (see Tiedemann column 11 lines 38-52, maximum supportable rate of the user depends on what it can support).

Regarding claim 10, wherein the scheduled duration is based on an estimate of amount of data in the buffer (see Tiedemann column 21 lines 49-67, queue size used by scheduler to determine which user can transmit).

Regarding claim 11, wherein the priority of the station is based on channel conditions (see Tiedemann column 12 lines 4-23, the channel capacity helps calculate which user gets to transmit first).

Regarding claim 12, wherein the priority of the station is based on an estimate of the amount of data in the buffer (see Tiedemann column 12 lines 4-23 and see column 21 lines 49-67, queue size used by scheduler to determine which user can transmit).

Art Unit: 2616

Regarding claim 13, wherein the priority of the station is based on the rate requested (see Tiedemann column 11 lines 21-52).

Regarding claim 14, wherein the priority of the station is based on throughput allocated (see Tiedemann column 32 lines 6-33, the capacity needed determines which user get priority).

Regarding claim 15, wherein the station is a mobile station (see Tiedemann Figure 1 Box 6a, mobile vehicle).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rezaiifar et al (6167270), Quayle (6317234), Chang et al (5367523), Montpetit (6366761), Mobasser (5289463), Smith et al (5784358) and Sorber (6018515).

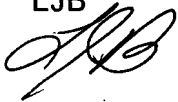
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAWRENCE J. BURROWES whose telephone number is (571) 270-1419. The examiner can normally be reached on Monday - Thursday 5:30am - 2pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJB



WING CHAN
SUPERVISORY PATENT EXAMINER